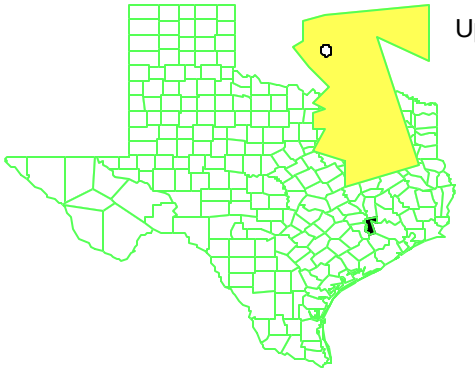
# ALCOA/LAVACA BAY
## TEXAS

EPA ID# TXD008123168

**EPA REGION 6**
CONGRESSIONAL DISTRICT 14
Calhoun County



Updated: November 29, 1999

## Site Description

**Location:**

! The Aluminum Company of America (ALCOA) Point Comfort Operations (PCO) Plant is located in Calhoun county in southeast Texas near the City of Point Comfort. The Plant is bordered by Lavaca Bay on the west, Cox Creek/Cox Lake on the east, State Highway 35 on the northwest and industrial and agricultural areas on the north and northeast.

**Population:**

! Approximately 1,100 people live in Point Comfort, Texas and 10,000 people live in Port Lavaca, Texas.

**Setting:**

! The Site consists of the ALCOA PCO Plant, an associated dredge spoil island, and portions of Lavaca Bay, Cox Bay, Cox Creek, Cox Cove, Cox Lake and western Matagorda Bay.

! The ALCOA PCO plant covers approximately 3,500 acres and the dredge spoil island is approximately 420 acres.

! Lavaca Bay has a surface area of approximately 60 square miles and Cox Bay has a surface area of approximately 8 square miles. Cox Cove includes an extensive marsh area located in the northwestern portion of Cox bay. There are several oyster reefs and oyster beds throughout the area. Marshes and wetlands are found at several locations in the vicinity of the Site. Waterbird colonies have been identified and monitored on or near the Site.

**Hydrology:**

! The Beaumont Formation underlies the site and generally consists of a sequence of silty clays, sandy clayey silts, clays, and silty sands. The Formation is 200 to 300 feet deep in the Point Comfort area.

! Three primary saturated sand and silt zones with intervening clay units have been identified in the upper 100 feet of the Beaumont beneath the site. The water table is generally 14 to 20 feet below the surface.

- The Chicot Aquifer underlies the Beaumont Formation, and the base of the Chicot is at a total depth of 1,200.

- Potable water supplies in the area come from deep groundwater wells since shallow groundwater in the vicinity of the Site has typically not been developed due to high chloride and Total Dissolved Solids (TDS) content. No potable water wells are located a the ALCOA facility or in its immediate vicinity.

- Water supply for ALCOA PCO plant is obtained from an off-site well field (the Midway well field) in southern Jackson County.

## Wastes and Volumes

- A total of 52 solid waste management units have been identified at the ALCOA facility. ALCOA currently produces alumina by refining bauxite. The bauxite refining process primary waste is bauxite residue, which has historically and is currently disposed of in four bauxite residue lakes (also known as the "red mud lakes").

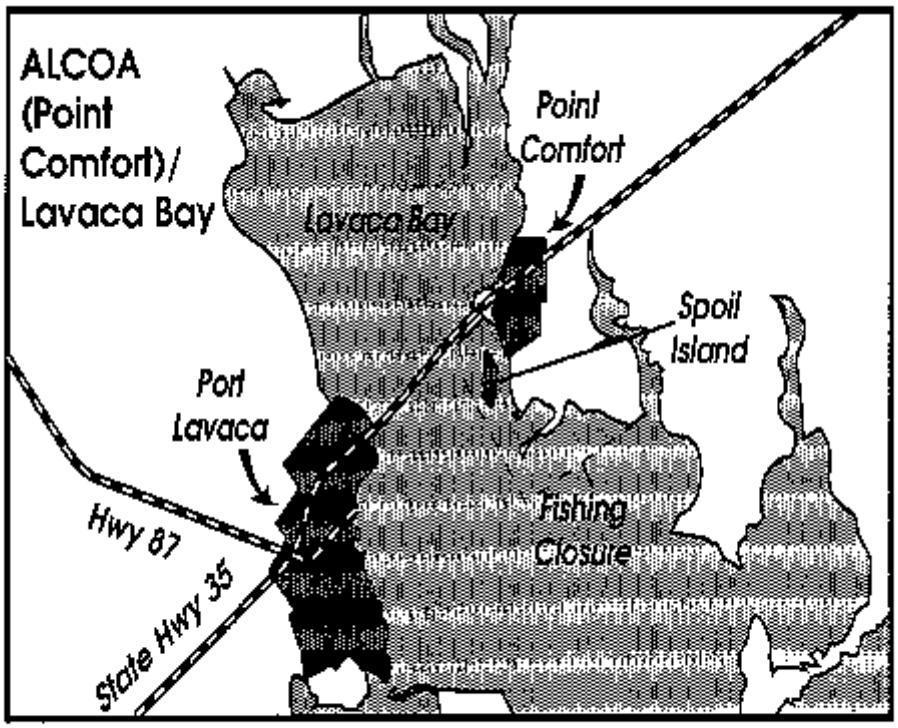
- Chemicals of Potential Concern (COPCs) have been identified for the different areas investigated during the Remedial Investigation (RI).
  The major COPCs in Lavaca Bay sediments include mercury and Polycyclic Aromatic Hydrocarbons (PAHs).

- Volumes of materials to be remediated has not yet been determined and will be evaluated in the Feasibility Study (FS).

## Site Assessment and Ranking

NPL LISTING HISTORY
Site HRS Score: 30.67
Proposed Date: 6/23/93
Final Date: 2/23/94
NPL Update: No. 15

## Site Map and Diagram




## The Remediation Process

**Site History:**

- The PCO Plant began operation as an aluminum smelter utilizing alumina as the raw material to produce aluminum metal. The smelter operated from 1948 until 1980.
- The plant is currently an alumina refining operation that utilizes bauxite ore to produce alumina.
- A cryolite plant operated from around 1962 to 1980.
- From 1966 into the 1970s, ALCOA operated a chlorine-alkali plant where ALCOA produced chlorine gas and sodium hydroxide. Part of the process involved the use of a mercury cathodes. Waste water containing mercury was discharged into Lavaca Bay through outfalls located on an off-shore gypsum lagoon located on Dredge Island. Dredge spoils, contaminated with mercury, were disposed of in several areas on the site. Bay sediments are now contaminated with the waste mercury.
- The oil and gas refining and power generation at the Neumin Gas Plant was operated by ALCOA from approximately 1958 to 1988. ALCOA sold the Neumin Gas Plant and the land upon which it is constructed to Formosa Plastics.
- A metal plating operation was also operated but is now inactive.
- Witco Chemical Corporation began operations in 1964 on approximately 7 acres located with the boundaries of the Plant. Witco processed coal tar for the manufacture of electrode binder pitch

and creosote. Operations were discontinued in December 1985.

**Health Considerations:**

- In April 1988, the Texas Department of Health issued an order prohibiting the taking of finfish and crabs from a specific part of Lavaca Bay ("Closed Area") due to levels of mercury in fish tissue above Food and Drug Administration standards. The "Closed Area" is approximately one square mile of Lavaca Bay surrounding the ALCOA facility.
- A Baseline Risk Assessment (BLRA) has been submitted to the Agencies for review and comment. The BLRA evaluates risk to human health and the environment.

## Record of Decision

No ROD has been signed for the ALCOA/Lavaca Bay site to date

## Community Involvement

- Community Involvement Plan: 1/95
- Open houses and workshops: 8/93, 4/94, 9/94
- Milestone EPA Fact Sheets: 8/93, 4/94
- Proposed Plan Fact Sheet and Public Meeting:
- ROD Fact Sheet:
- ALCOA (PRP) Community Involvement Plan: Draft 6/94, Final 1/95.
- ALCOA (PRP) Milestone Fact Sheets:
- Citizens on EPA site mailing list: 364
- Constituency Interest: The site has an historically medium to low level of citizen interest. A Community Advisory Group was established by ALCOA and meets on a monthly basis.
- Site Repositories:

  Calhoun County Public Library
  200 West Mahan
  Port Lavaca, TX 77979
  (512) 552-7323

  ALCOA Superfund Information Center
  320 E. Main, Port Lavaca, TX 77979
  (512) 552-8839

- Press release and public information meeting 7/97

## Technical Assistance Grant

- Availability Notice: 8/93, 4/94
- Letters of Intent Received: 5/29/95: Calhoun County Resource Watch
- Grant Award: Denied

## Contacts

- **Project Manager (EPA):** Gary A. Baumgarten, 214-665-6749, Mail Code: 6SF-AP
- **State Contact:** (TNRCC) Luda Voskov, 512/239-6368, Mail Code: 143
- **Community Involvement Coordinator (EPA):** Linda Rodriguez, 214-665-2138 Mail Code: 6SF-P
- **Attorney (EPA):** Pamela Travis, 214-665-8056, Mail Code: 6SF-DL
- **State Coordinator (EPA):** Karen Bond, 214-665-6682, Mail Code: 6SF-AP
- **Region 6 Ombudsman:** Arnie Ondarza, 214-665-6790, Mail Code: 6SF
- **Prime Contractor:**

## Enforcement

- Administrative Order on Consent issued to Alcoa to conduct a remedial investigation, risk assessment, and feasibility study (RI/FS) and possibly perform expedited response/removal actions - 3/31/94

## Present Status and Issues

- A revised Remedial Investigation (RI) report was submitted to the regulatory agencies in November 1999.
- The draft RI report and Baseline Risk Assessment (BLRA) were submitted to the regulatory agencies in August 1998. The RI report presents the findings on the nature and extent of contamination at the site while the BLRA evaluates the risk to human health and the environment.
- Sampling conducted for the Remedial Investigation (RI) has been completed with the exception of one area. A focused investigation in the former Witco area which started in September 1998 has been completed. Major sampling conducted during the RI includes the evaluation of sediments and surface water in the "Closed Area" of Lavaca Bay and the remainder of Lavaca Bay (including Cox Lake, Cox Marsh, and portions of Western Matagorda Bay) as well as sampling and analysis of finfish, shellfish and prey items from Lavaca Bay. The primary contaminants of concern for the bay system include mercury and polycyclic aromatic hydrocarbons (PAHs).
- A focused investigation to evaluate the nature and extent of contamination in the former chlor-alkali process area (CAPA) has been completed. A groundwater treatability study is being conducted at CAPA to evaluate if pumping and treating groundwater will effectively prevent migration of groundwater into Lavaca Bay.
- A surface soil investigation has been completed at a number of Potential Source Areas on the plant/mainland area of the site. A groundwater reconnaissance investigation which began in September 1997 to evaluate if the groundwater is contaminated from operations at the Potential Source Areas has also been completed.
- A focused investigation has been completed at the former Site I Landfill. Results of the focused investigation conclude that there are no completed exposure pathways present from the Site I Landfill to receptors in Cox Marsh.
- A perimeter ground water monitoring well network has been installed and samples have been collected to evaluate whether contaminants are present at the perimeter of the plant or could migrate offsite from the Alcoa PCO facility.
- An Engineering Evaluation/Cost Analysis (EE/CA) that presents removal action alternatives to protect the Dredge Island in the event of a severe storm was released for public comment beginning August 6, 1997. A public information meeting was held by EPA on July 29, 1997 to discuss the Dredge Island fortification project. The public comment period ended on September 22, 1997. The Action Memorandum, which selects the removal action alternative, was signed by

EPA on April 30, 1997. The design of the selected removal action alternative is complete and construction activities began in August 1998.

## Benefits

- Following the completion of the RI/FS and a baseline risk assessment, a Proposed Plan will provide the Agency's proposed remedial action for the site. The remedial action decided upon will be presented in a Record of Decision (ROD) following public meetings and public comment. The ROD will present the cleanup measures determined to be protective of human health and the environment.
- Cleanup measures should eventually result in the Texas Department of Health rescinding the Fish Closure order. This would enable the community to keep fish and shellfish from all areas of Lavaca Bay.